Application Number: 10/604,853 Group Art Unit: 3711

Filing Date: 08/21/2003 Examiner Name: William Pierce

Inventors: Randall Addington et al. Attorney Docket No.: 1081003

Title: Bowler's Positive Control System And Method

SUPPLEMENTAL REPLY RESPONSIVE TO RESPONSIVE TO PAPER 20090117, MAILED 01/21/20009.

Grounds For Supplemental Reply And For Consideration By Examiner

In PAPER 20090117, mailed 01/21/2009, examiner stated,

> The reply brief filed 9/24/07 contains new reference evidence (US Patent 4,371,163 (Shaffer et al.)) which deems the Reply Brief non-compliant. See MPEP § 1208(a)(2). See MPEP § 1208(b). As such this Reply Brief has not been considered.

Examiner is wrong on the facts of this application, that "US Patent 4,371,163 (Shaffer et al." is a new reference and as such is prohibited under 37CFR §41.41 Reply Brief.

Shaffer, U.S. Pat. No. 4,371,163 is written into the application and forms a part of the disclosure. In the Summary of the Application, as filed, the specification, as originally filed, recites, and relies upon the Shaffer patent 4,371,163, in Paragraphs 0001 to 0003 (emphasis added by using **boldface** for particular reference to Shaffer).

SUMMARY OF INVENTION

A primary objective in bowling is a two rotary motions placed on the ball, called roll and spin, roll being the rotation of the ball in the direction of travel and spin being

the rotation of the ball about an axis intersecting the roll axis and typically orthogonal to the roll axis. Most bowlers experience great difficulty in giving this combined rotation to the ball in any consistent manner. **A description of one of many attempts to assist the bowler in imparting spin and roll are described in Pat. No. 4,371,163 of Shaffer**. Described in that same Pat. No. 4,371,163, is the technique used by bowlers of using one or more middle fingers to deliver spin and roll to the ball in a process generally known as lift, or lifting the ball on its release from the bowler's hand.

In lifting the ball on its release, the ball must be made to rotate in a forward direction, i.e., along an axis which is horizontal and perpendicular to the direction of motion. This rotation causes the ball to roll in the desired direction down the alley. Secondly, the ball should have a component of rotation, called spin, along a vertical axis, counterclockwise as viewed from above (if thrown with the right hand). This spin is largely responsible for achieving a desired scattering of the pins as they fall.

Many students of the bowling art have recognized that the middle two fingers, which occupy adjacent holes in the ball, should be the source of the desired roll. These fingers should rotate the underside of the ball upward, an effect called lift as they leave

the ball upon its release from the bowler's middle fingers. One or more of the bowler's middle fingers are used to lift the ball giving it this complex rotation about two axes and also to grip the ball with sufficient control at its delivery and release to prevent or reduce slippage and to enable the bowler to achieve lift with the most revolutions on the ball the bowler is capable of delivering, which is important to scattering the pins and achieving a strike. Attempts to achieve a better grip generally use a surface between the finger and the ball which increases the surface friction and the surface counter force to the force developed when lifting and releasing the ball in a direction to displace the finger placement relative to the ball.

END OF REFERENCE TO SHAFFER, Pat. No. 4,371,163

The above recitation of the disclosure of Schaffer Pat. No. 4,371,163, as recited in the specification to the filed application, cannot be new evidence, as claimed by examiner. Examiner has no grounds for his refusal to consider applicants' Reply. Any continuation by examiner of the decision not to consider applicants' Reply is an arbitrary act that fails the examination Standard of Review for substantial evidence and an admission by examiner of the facts and conclusions in the Supplemental Reply Brief .

The First Instrumented Bowling Ball, cited by examiner for the first time in the Answer, was first published in 2006 and cannot anticipate or make obvious, applicants' earlier filed invention. At best it is limited to the disclosure of different methods of delivering a bowling ball, for example, as stated with regard to Fig. 4,

Figure 4: individual finger forces vs. time in
conventional straight shot, conventional hook shot, and
finger-tip hook shot The different stages of the approach,

from 1 to 6, correspond to Fig. 3. Note the force spikes of ring and middle finger after release of the thumb.

This description from examiner's cited article is in agreement with the disclosure of Shaffer, as included by applicants' in the specification. The description of the Shaffer disclosure, in the Reply and but, removed from the Supplemental Reply (see below), is the same as what is recited in the specification as filed and cannot be new evidence.

Applicant has removed all references to Shaffer, Patent No. 4,371,163, except for the above, as it is not needed for applicants' appeal. Shaffer does add background information useful to the forces produced against the fingers of a bowler when properly delivering the bowling ball. As identified by Shaffer, it is the middle fingers that are used to rotate the ball and propel it toward the pins. As correctly described by Shaffer, the thumb is not a part of the hand when the ball is released.

Applicant's use of the disclosure of Shaffer, as is now in this Supplemental Reply or as used in the Reply as first filed, is proper rebuttal to examiner's new ground of rejection based on the new reference to **"First Instrumented Bowling Ball."**

Examiner's decision, that applicants' Reply should not be considered because Shaffer is new evidence, is arbitrary as it has no support in fact and should be withdrawn.

In reformatting this Supplemental Reply Brief, all footnote are removed and incorporated into the maid body of the Supplemental Reply Brief..

Applicants have provided ample grounds that Shaffer, Pat. 4, 371, 163, is not new

evidence. Applicants have incorporated into this Reply the recitation of Shaffer as stated in the specification as filed . Applicants removal of the reference to Shaffer Pat. No. 4, 371, 163, is not an admission that Shaffer Pat. No. 4, 371, 163 is new evidence under 37CFR §41.41 Reply Brief, as examiner states.

END OF SUPPLEMENT TO REPLY BRIEF

The Reply Brief is limited to rebuttal of examiner's Answer, Claim Rejection 35 USC § 102 and §103. The rejection under 35 USC §101 and §112, is not sustained.

I.Reply to Claims - Rejection 102

A. Principals of Law

The legal principals of claim interpretation and inherency, are stated in Board of Patent Appeals and Interferences (BPAI) Appeal No.2006-3338, decided February 28th, 2007, in re. Application 09/396,530.

1. Claim interpretation

As stated in BPAI Appeal No. 2006-3338, at 5,

[O]ffice personnel must rely on Appellant's disclosure to properly determine the meaning of terms used in the claim *Markman v. Westview Instruments,* Inc. 52 F. 3d 967, 980 (Fed. Cir.)

2. Inherency

[T]o establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and it

would be so recognized by persons of ordinary skill; Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson* 169 F.3d 743, 745 (Fed. Cir.

B. Brief Summary Of The Invention

The invention, as disclosed in the Specification Paragraphs [0026] and [0027, comprises

> matching or interlocking surfaces in the area of contact made by the interior surface of a bowling ball finger hole and finger pad cover mounted on a bowler's middle finger pad, for achieving positive control when used in releasing the ball and imparting lift to the ball on its release.
>
> [See 0025]
>
> Referring to FIG. 1, the invention description, as disclosed in the specification, shows a bowling ball 10, in partial view, with a finger hole insert 11 when
>
> inserted into finger hole 12 and with the insert 11 shown partially in phantom. As would be understood by those skilled in the art, the disclosed invention and
>
> the inventive principles may be used in a preferred embodiment with a finger hole insert 11 or may be applied directly on the interior surface of the finger hole 12. The finger hole, or finger hole insert inner surface 14, as shown includes a three dimensional surface. shown generally by numeral 15 on insert inner surface 14, and with base 16 and side walls 18a and 18b, defining a groove disposed parallel to a

matching primary axis 22, extending longitudinally through the insert 11, as shown in FIG. 2. In a preferred

embodiment, the three dimensional surface 15, is a groove, extending along an axis 22 extending from the annular opening 19 of the finger hole insert 11, to its bottom 21 and in a direct line with the matching primary axis 22. For the purposes of explanation, axis 22 is identified at the matching primary axis, and is related to the primary axis 37 of the finger pad cover 31, extending from the end adjacent or opposed to the finger tip in a direct line to the end opposed or adjacent to the finger joint, as shown in FIG. 3b.
[See 0026]

C. The Differences Between The Claims and the Disclosure of Calentine.

a. Claim 1

1. Calentine, states that the thumb comes out of the ball first and the fingers last.. Calentine states the purpose of the thumb piece 10, inserts 28, 30 and the insert 14 frictional material, is to slow the sliding of the thumb from the ball giving the fingers extra lifting power and control by the back of the thumb as the thumb is withdrawn from the hole . (See Calentine, Col. 2, lines 42-53, Col. 5, lines 54 - 64).

2. Calentine does not show the claim 1 recitation of a first means for mounting an interlocking three dimensional surface on a finger pad. Calentine is limited to a device for protecting a part of the thumb between the first and second joints, and does not show or disclose any kind of surface on a finger pad, by the element **28** of Calentine or any other element. Because there is no "first means as recited in claim 1, there can be no co-acting of said recited first means and said second means.

3. Calentine describes his device, the thumb piece 10, is placed on the upper left back of the thumb, from a position back of the first joint to the second joint. As shown in Figs. 6, 4, and 1, the alignment of the thumb piece 10 is with thumb piece back of the thumb first joint, to align the friction insert **28,** 30 (30 shown incorrectly as 24, in Fig 6) with the friction material 72, positioned on the side of the insert 14 in slot 70. The unprotected bare thumb pad, shown in contact with the ball finger hole insert in Fig. 6 (see col. 3, lines 49- 64, col.5, lines 64 - end and col.6, lines 1-3), is not in a position for use in the release of the ball. As described by Calentine, any control of the ball is by the back of the thumb and inserts **28,** 30, as the thumb is withdrawn. See Col. 5, lines 57 -68, Col. 6, lines 1-4.

4. There is no disclosure in Calentine for any kind of surface or covering on any of the finger pads or on the thumb pad, shown as disclosing a **"surface on a finger pad."** As shown in Calentine, the thumb is described as separate and apart from the fingers (see for example see col. 2, lines 43 -44,, shows three (3) methods of release, a straight shot, a conventional hook shot, and a finger tip hook shot (See Fig. 4, description). While it is difficult to read the poor copy provided to applicant, it appears the thumb is removed from the ball, before the fingers are removed with the last forces applied to the ball exclusively by the middle and ring finger. The thumb pad is shown unprotected, without any surface covering the thumb pad, and in contact with the ball insert. Numeral 34 shows a cut out displaced from the thumb pad, leaving the thumb pad bare and in contact with the bowling ball insert. (see Figs. 4, 6 and 8) (see Col. 3, lines 59 -63).

5. There is no means in Calentine for the recited **interlocking three dimensional surface in the finger hole of the bowling ball**. Calentine is limited to a frictional material 72 in slot 70. The purpose of frictional material 72 is disclosed as cooperating with frictional inserts 28, 30, to provide effective friction action during release of the ball. Nothing is disclosed in Calentine, as "interlocking." (See Col. 5, lines 29-39).

6. There is no recited "**first means and second means to co-act . . .,"** (see paragraphs 1 to 3,

above).

b. Claims 2 and 3 are dependent from claim 1.

1. Calentine does not show expressly or inherently, a counter force at an angle to the primary or primary matching, axis. The counter force in Calentine is produced by the contact of the friction insert. 24, 28, 30, with the frictional material 72, in response to the removal of the thumb from the ball hole sleeve 14. The thumb removal out of the insert 14 would be parallel to or along, the axis of the sleeve 14. A counter force produced by the contact of friction insert 28, 30 with frictional material 72, would be parallel to, and in the opposite direction to the direction of the thumb as it is removed. The parallel force is not a force as claimed, ". . .at an angle or orthogonal angle, to the primary or matching primary, axis."

c. Claim 5.

1. Claim 5 is dependent from claim 1. Inelastic is described in the specification, Paragraph 0039, lines 6-12. There is no disclosure in Calentine of a substantially inelastic contact area between the finger tip and finger hole.

d. Claims 6 and 7

1. The claim 6 recitation of an elongated stud and groove for interlocking with said stud, is not met by the friction insert 28 on the thumb piece 10, or by the insert 14, slot **70** used to hold the frictional material 72. Col 3, lines 29 -35, As described, there is no disclosure of any interlocking of slot **70** and the frictional material **28** or 30. (See paragraph A. 3, above) The slot **70** is not disclosed as a hemisphere indentation as it is filled with the protruding frictional material 72.

2. There is no **"interlocking,"** in Calentine as recited in claim 7. Calentine discloses a frictional material 72, and friction insert 24, 28, 30, is disclosed as used to slow the removal of the

thumb. In Calentine the frictional pieces are rubbing against each other, when placed in contact but are not interlocked in any one relative position.

e. Claims 8 to 13, reciting *inter alia,* a finger pad cover, a three dimensional surface with an interlocking pattern, and finger hole or finger hole insert with a matching interlocking pattern, is not disclosed by Calentine, on the facts and reasons given for claims 1 to 7.

As discussed in part, with reference to the discussion for claims 1 to 7, and in rebuttal to the Answer, claims 8 to 13,

i. Calentine's thumb device 10, does not cover or protect a finger pad,

ii. the friction inserts **24,** 28, 30, are not disclosed in an interlocking pattern,

iii. the frictional material 72 is not disclosed as interlocking with the friction inserts 24, 28, 30, .

iv. the material used in the Calentin thumb piece 10 is not related to, and does not disclose, an inelastic material for the finger pad cover,

v. the friction insert 24 is not a stud, whether as disclosed or considered broadly, beyond the scope of the disclosure. [6] Calentine's refers to the friction insert **28,** as designed to cooperate with the frictional material 72 in slot **70.** There is no groove shown in insert 14, fitting into, or interlocking with frictional material 24, 28, 30. the slot **70** in insert 14, as disclosed in Calentine, is filled with an frictional material 72, and is not a hemisphere indentation or groove. The slot **70** does not cooperate with any part of the thumb piece 10. It is the frictional material 72 that fills the slot **70,** that cooperates with the friction insert **28.** Te interpretation given in the Answer is not justified or supported by the facts of the Calentine disclosure,

vi. there is no ground given in the Answer for the rejection of claim 13.

f. Claims 14 to 20, reciting, *inter alia,* an aligning interlocking system mounted on the finger pad and in the bowling ball finger hole or insert, is not shown or described in Calentine, for the reasons given for claim 1 to 13 and for the following grounds,

i. **34** is a notch in the device 10. It is not disclosed as covering or protecting the thumb pad or a finger pad. Its purpose is to allow contact of the bare thumb part between the first and second joint with the ball finger hole, see col. 3, lines 59 -83, and does not align the thumb with the ball, as there is nothing in the Calentine thumb piece 10 to prevent the bowler from changing the position of the thumb in the ball finger hole insert 14. **44** is strap for securing the thumb piece 10 on the thumb between the first and second joint and contains no disclosure of any mounting on the finger pad.

ii. there is no Calentine disclosed interlocking parts on a finger pad and the finger hole,

iii. there is no means for protecting the tip of the bowler's finger from the force of the ball at its release and for transferring substantially all of the accelerating force from the bowler's finger tip to the ball,

iv. Calentine's slot **70** is not a groove and there is not groove or stud, shown in Calentine,

v. there is no ground given for the rejection of claims 17 or 20,

vi. slot **70** does not disclose a hemisphere indentation (see Section d, above)

g. Claims 21 to 28 recite a method of using interlocking surfaces on a bowler's finger pad cover and on the surface of a ball finger hole insert to produce a force to counteract shifting of the ball relative to the bowler's finger.

The Answer relies on the disclosed notch **34** (see Section f l, above) and the forces examiner's Answer describes as ". . . inherent, as discussed by the article "The First Instrumented Bowling Ball."

Applicant refers to the recitations of claims 21 to 22 and 24 to 26, which cannot be shown to be disclosed by Calentine, or inherently by the reference article. The Answer must state more than a conclusion that any of the claim recitations are shown by the Calentine or the article, expressly or inherently, disclosed. (See Section II. 2., above)

h. Claims 29 to 33, recite a system of interacting surfaces for controlling the alignment of a bowler's finger with a bowling ball.

1. For claim 29, the answer relies on Calentine, in particular the thumb piece 10, for disclosure of "second means for mounting on a finger pad." The thumb piece 10 does not meet the recitation of claim 28, for the grounds given for claims 1, (see C. a, e, f, above). The disclosure of Calentine does not show a means for mounting on a finger pad, as recited in claim 29.

2. The Answer relying on the thumb piece 10, does not show the recited finger pad, and cannot form a contact area with the ball insert. Fig. 6, shows the thumb pad, bare and unprotected in contact with the ball thumb hole insert.

D. Summary

The Answer relies on elements which are not shown or disclosed in Calentine. [7]

1.34 in Fig. 6, does not disclose a finger pad.

2. Frictional insert **28** is not mounted on a finger pad or a thumb pad.

3. Frictional material 72 is not an interlocking element, with **24,** 28, or 30, or a groove.

4. The forces shown in the article "First Instrumented Bowling Ball," do not inherently disclose the recited counter force.

5.70, shown and described as a slot, is not a hemisphere indentation.

6. Strap **44,** holds the Calentine thumb piece in place but has not function or placement for or on a finger pad, or thumb pad.

7. The article **"First Instrumented Bowling Ball,"** is limited to a description of forces measured from the middle finger, the ring finger, and the thumb, in the release of the ball. The Answer does not show elements required by the claim recitations, by extrinsic evidence and as more than possibilities or probabilities.

III. Reply to Claim Rejections -35

A. USC §103 1. Legal bviousness

The leading case law on 35 U.S.C. 103 Obviousness, is in **KSR INTERNATIONAL CO., PETITIONER v TELEFLEX INC. ET AL.** No. 04-1350. Supreme Court of United States. Argued November 28, 2006. Decided April 30, 2007.

The issue before the Court, was the rejection under 35 U.S.C. 103, of claimed invention, recited in Claim 4, as,

A vehicle control pedal apparatus comprising:

a support adapted to be mounted to a vehicle structure;

an adjustable pedal assembly having a pedal arm moveable in for[e] and aft directions with respect to said support;

a pivot for pivotally supporting said adjustable pedal assembly with respect to said support and defining a pivot axis; and

an electronic control attached to said support for controlling a vehicle system;

said apparatus characterized by said electronic control being responsive to said pivot for providing a signal that corresponds to pedal arm position as said pedal arm pivots about said pivot axis between rest and applied positions wherein the position of said pivot remains constant while said pedal arm moves in fore and aft directions with respect to said pivot.

In the Court's view and statement,

The problem addressed by the invention was an improved electronic sensor for sensing the position of as mechanical foot pedal by an electrical signal produced by a mechanical electrical transducer, mechanically connected to the foot pedal. In the 1990's it became more common to install computers in cars to control engine operation. Computer-controlled throttles open and close valves in response to electronic signals, not through force transferred from the foot pedal by a mechanical link.

For a computer-controlled throttle to respond to a driver's operation of the car, the computer must know what is happening with the pedal and an electronic sensor is

necessary to translate the mechanical operation of the foot pedal, into digital data the computer can understand. At 5.

The prior art patents cited were Redding and Smith. Redding provided an example of an adjustable pedal and Smith explained how to mount a sensor on a pedal's support structure, and the rejected patent claim merely put these two teachings together. Claim 4 was allowed as non obvious by the examiner, because it included the limitation of a fixed pivot point, which distinguished the design from Redding's. At 8. [See underlined claim recitation above]

The factors defining the inquiry of "obviousness," are set out in Graham v. John Deere Co. of Kansas City, 383 U. S. 1, 17-18, as an out an objective analysis for applying '103: "[T]he scope and content of the prior art are . . . determined; differences between the prior art and the claims at issue are . . . ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." While the sequence of these questions might be reordered in any particular case, the factors define the controlling inquiry. At 2.

As a set of guiding principles in applying the Graham test, the Court set out the following, at 3,

1. A Combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. See, e.g., United States v. Adams, 383 U. S. 39, 50-52.

2. When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another.

3. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, '103 likely bars its patentability.

4. Moreover, if a technique has been used to improve one device, and a person of

ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill. 5. A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions. Following these principles may be difficult if the claimed subject matter involves more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.

5. To determine whether there was an apparent reason to combine the known elements in the way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the design community or present in the marketplace; and to the background knowledge possessed by a person having ordinary skill in the art.

6. To facilitate review, this analysis should be made explicit. But it need not seek out precise teachings directed to the challenged claim's specific subject matter, for a court can consider the inferences and creative steps a person of ordinary skill in the art would employ.

The Court addressing combination patents, stated, at 10,

> Court has held that a "patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men." Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U. S. 147, 152 (1950). This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. Three cases decided after Graham illustrate the application of this doctrine.

In United States v. Adams, 383 U. S. 39, 40 (1966), a companion case

to Graham, the Court considered the obviousness of a "wet battery" that varied from prior designs in two ways: It contained water, rather than the acids conventionally employed in storage batteries; and its electrodes were magnesium and cuprous chloride, rather than zinc and silver chloride. The Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. 383 U. S., at 50-51. It nevertheless rejected the Government's claim that Adams's battery was obvious. The Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. Id., at 51-52. When Adams designed his battery, the prior art warned that risks were involved in using the types of electrodes he employed. The fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams's design was not obvious to those skilled in the art.

In Anderson's-Black Rock, Inc. v. Pavement Salvage Co., 396 U. S. 57 (1969), the Court elaborated on this approach. The subject matter of the patent before the Court was a device combining two pre-existing elements: a radiant-heat burner and a paving machine. The device, the Court concluded, did not create some new synergy: The radiant-heat burner functioned just as a burner was expected to function; and the paving machine did the same. The two in combination did no more than they would in separate, sequential operation. Id., at 60-62. In those circumstances, "while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented," and the patent failed under '103. Id., at 62 (footnote omitted).

Finally, in Sakraida v. AG Pro, Inc., 425 U. S. 273 (1976), the Court derived from the precedents the conclusion that when a patent "simply arranges old elements with each performing the same function it had been known to perform" and yields no more than one would expect from such an arrangement, the combination is obvious. Id., at 282.

The Court's analysis addressed,

[T]he principles underlying these cases [as] instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, '103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrativeCa court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

The Court of Customs and Patent Appeals captured a helpful insight when it first established the requirement of demonstrating a teaching, suggestion, or motivation to combine known elements in order to show that the combination is obvious, Referring to Application of Bergel, 292 F. 2d 955, 956-957 (1961), the Court stated, at 11,

> As is clear from cases such as Adams, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

In any analysis of "obviousness," the Court cautioned, at 11,

> . . Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

In addressing the analysis of the Court or Appeals in the case sub judice, the Court identified that Court's errors, as follows.

> The first error of the Court of Appeals in this case was to foreclose this reasoning by holding that courts and patent examiners should look only to the problem the patentee was trying to solve. 119 Fed. Appx., at 288. The Court of Appeals failed to recognize that the problem motivating the patentee may be only one of many addressed by the patent's subject matter. The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art. Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.
>
> The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem. Ibid. The primary purpose of Asano was solving the constant ratio problem; so, the court concluded, an inventor considering how to put a sensor on an adjustable pedal would have no

reason to consider putting it on the Asano pedal. Ibid. Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, the design provided an obvious example of an adjustable pedal with a fixed pivot point; and the prior art was replete with patents indicating that a fixed pivot point was an ideal mount for a sensor. The idea that a designer hoping to make an adjustable electronic pedal would ignore Asano because Asano was designed to solve the constant ratio problem makes little sense. A person of ordinary skill is also a person of ordinary creativity, not an automaton.

The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was "obvious to try." Id., at 289 (internal quotation marks omitted). When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under '103.

The Court of Appeals, finally, drew the wrong conclusion from the risk of courts and patent examiners falling prey to hindsight bias. A fact finder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. See Graham, 383 U. S., at 36 (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "guard against slipping into the use of hindsight" (quoting Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co., 332 F. 2d 406, 412 (CA6 1964))). Rigid preventative rules that

> deny fact finders recourse to common sense, however, are neither necessary under our case law nor consistent with it.
>
> The Court, finding the District Court was correct to conclude that, as of the time the invention was reduced to practice, and as recited in the allowed claim 4, there then existed a marketplace that created a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for achieving this advance. At 13.

The Court, starting with a market place needs analysis, saw as the proper question to have asked was ,

> whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading [the Asano patent], with a sensor.

At 14.

The Court's finding, in its response to its question, put rhetorically, was a "wide range of needs created by developments in the field of endeavor" using the existing prior art facts, that,

a) the '936 patent taught the utility of putting the sensor on the pedal device, not in the engine.

b) Smith, in turn, explained to put the sensor not on the pedal's footpad but instead on its support structure. c) from the known wire-chafing problems of Rixon, and Smith's teaching that "the pedal assemblies must not precipitate any motion in the connecting wires," the designer would know to place the sensor on a non moving part of the pedal structure.

and

d) the most obvious nonmoving point on the structure from which a sensor can easily detect the pedal's position is a pivot
point. At 14.

The Court, based on its fact finding, concluded that a designer, accordingly, would follow the teaching of Smith that the pedal assemblies must not precipate any [translational] motion in the connecting wire and in mount the sensor on the pivot, [stationary relative to translational movement]. thereby designing an adjustable electronic pedal covered by claim 4.

Using the market needs analysis, the Court found a designer, following similar steps to those just explained, would learn from Smith to avoid sensor movement and would come, thereby, to Asano because Asano disclosed an adjustable pedal with a fixed pivot.

The prior art discussed above leads us to the conclusion that attaching the sensor where both KSR and Engelgau put it would have been obvious to a person of ordinary skill.

Applying 35 U.S.C. 103, to the instant invention, the errors identified as made by the Court of Appeals, are considered in view of the Graham test. In summary, the errors (see above), are,

a) that the courts and patent examiners should look only to the problem the patentee was trying to solve.

b) that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem.

c) that a patent claim cannot be proved obvious merely by showing that the combination of elements was "obvious to try."

d) that the risk of courts and patent examiners falling prey to hindsight bias, required

rigid preventative rules, neither necessary under our case law nor consistent with it, that deny fact finders recourse to common sense.

A summary of the Courts analysis, is,

a. a requirement in the case of a combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does;

b. when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious;

c. secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

B. Claims 5, 13, 17, 20, 27, 31, have not been shown as obvious.

a. Calentine does not disclose the elements recited in these claims, as shown above in the reply and rebuttal to the rejection under 35 USC §102, for example without limitation, by elements, 10, 24, 28, 30, 34, 44, 70, 72. For example, Calentine frictional insert whether 24 or 28, is not a "stud, indentation 70 is not a groove and 70 does not interact with the frictional inserts 24, 28, 30.

b. There is no identification any thumb or finger, tip protection in Calentine

c. Calentine teaches away from protecting the thumb pad or tip, or that protection is needed, disclosing the preference for leaving the thumb pad and tip bare. (See Calentine, col. 4, lines 59 - 63 and Fig. 6).

d. The Answer does not facilitate review by being made explicit, by inferences or steps, a person of ordinary skill in the art would employ in constructing the claimed combination. Instead, the Answer relies on statements as conclusions, stating "it would be obvious," " "such is a matter of common sense," or "common knowledge," "skill in the art is presumed," and "one must observe that an artisan must be presumed to know something about the art apart from what the references disclose.

IV. Answer - Response to applicant's arguments

Examiner had placed a heavy burden on applicant by the rejections under 35 USC 101 and 35 USC §112, included with the rejections under 35 USC §102 and §103. Examiner has forced applicant to respond to the 35 USC §101 and 35 USC §112, rejections. The result of applicants' response to the 35 USC §101 and 35 USC §112, rejections was examiner, in conference, was made to withdraw these rejections as not sustained. Examiner has forced applicant to appeal the Final 35 USC §102 and 35 USC 103, rejections. In response, the Answer, removed and replaces the ground of rejection, given in the Final rejection. Similarly, applicant has responded in good faith to the full sum and content of the Answer's rejection under 35 USC §102 and 35 USC §103, based on Calentine. Applicant has met the burden under 35 USC 102, by its Appeal Brief, stating what Calentine disclosed and identifying specific parts of the recited claims, not disclosed in Calentine, as anticipated under 35 USC §102.

Respectfully submitted,
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